SOFREL YDRIX

Smart Remote Terminal Unit for telemetry and process control of water networks

Pumping stations

Water tanks

wastewater treatment plants

Drinking water treatment plants

Wastewater lifting stations

PRODUCT BENEFITS

- **Extended remote control and monitoring functions**
  - Monitoring of network installations and alarms management
  - Continuous monitoring and data processing
  - Automated process control via an integrated workbench
  - Wastewater lifting station control
  - Sensor power supply and management
  - Remote control and intersite (M2M) communication
- **Continuity and security of communication**
  - Communication link redundancy
  - Certificate management
  - Integrated VPN
- **Simplicity**
  - SetIT smart software for RTU configuration, diagnostic and log monitoring
  - Integrated modem
  - User management and role based access control software

PRODUCT FEATURES

- 4G/3G/2G modem and 2 Ethernet ports
- Standard protocols

- Reliability and robustness
- Integrated web server
- Cybersecurity (VPN, Firewall, encryption...)

BENEFITS OF WORKING WITH LACROIX SOFREL

- A 50-years-old company, leader in water market and specialist in telecommunication
- Pre-project studies by water and telemetry specialists
- Free technical assistance service
- A local presence via an extensive network of certified partners
- A wide range of products (data loggers, RTUs, SCADA, sensors...)
- Products made in France and Germany guaranteed for 3 years

MAIN CHARACTERISTICS:

Integrated modems

Simplicity

Integrated VPN

IEC 61131-3 Automation workbench

3 years Guarantee

Centralized user & access management

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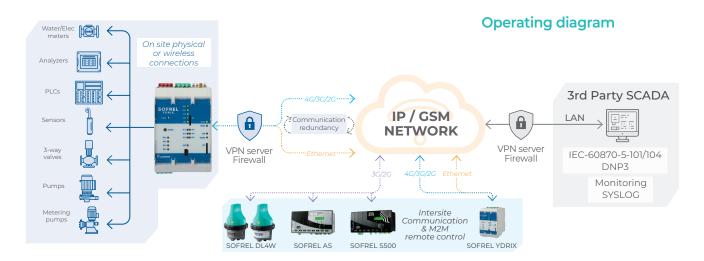# Technical and functional characteristics

HARDWARE :

Compact housing

Integrated I/O	6DI - 2AI - 4DO
Modems and communication interfaces	Integrated 2G/3G/4G modem - 2 Ethernet LAN TCP/IP ports - RS485 or RS485 i - RS232 - USB connector
Power supply	Supply voltage 24 VDC, -15% +20% max. 35 VDC momentarily, power failure < 15 VDC
Connectors	Screw terminals MSTB 4-pole - 0,2 to 2,5 mm2
Dimensions W x H x D	68 x 105 x 115 mm
Installation	DIN-EN 60715 TH35
Operating temperature	-20° to +70 °C

Technical characteristics

Inputs / Outputs	DI (Digital Input): acquisition time 1 ms, pulses >1 ms AI (Analog Input): 0-20mA/4-20mA, 16bits resolution, sensor powering DO (Digital Output): relay output normaly open/closed, 30 V max. 1 A DC, isolated 1.5 kV AC AO (Analog Output): 0-20 mA current output
Communication	LTE modem 4G, 3GPP rel11 Cat1, MISO, FOTA 2 Ethernet LAN TCP/IP, 10/100BaseTx, auto-MDIX, auto-negotiation, firewall 1 RS-485 interface, galvanically isolated 1 RS-232/V.24 interface USB 2.0 host 480 Mbit/s (configuration/archive synchronisation via USB stick)

Extensions

I/O Expansion Modules (optional)	Additional modules: 8DI - 4AI - 8DI/2AI - 8DO - 4AO

FUNCTIONS :

Information management	Up to 2000 information
Automation workbench	Programming languages: Ladder - ST - FBD - SFC (Grafcet). Compliant to IEC 61131-3 Automation workbench Tuning tools: Simulator - Debugger - Graphical analysis - Online à remote debug System & water libraries: HW (Clock, traces...), calculations: average flowrate, derivative. etc, PID, sensor default management, cyclic and time based actuator control...
Lifting station control	Process control: Control of up to 4 pumps, time out management, grease & deposit prevention, failure and pump switching management, start/stop actuator control Hydraulic efficiency: calculation of average input flowrate, volume calculation from flowrate, overflow monitoring
Alarm management	Trough DNP3 or IEC-60870-5-101/104 - SMS - E-mail
Protocol support	ModBus RTU, ModBus TCP, IEC-60870-5-101/104, DNP3 Level 3, NTP, Syslog, SOFREL data logger
Communication redundancy	Automatic switching from one communication link to a back up one
Security	VPN protocols IPsec IKEv1, IPsec IKEv2, OpenVPN Secured communication through a VPN server
Intersite communication	SOFREL data loggers
SCADA compatibility	Trough DNP3, IEC-60870-5-104, IEC-60870-5-101
Built-in web server	Archives (alarm, operational message) - processing data - values modification

CERTIFICATIONS :

Electric safety	EN 62368-1
Telecommunication	RED, ETSI EN 301 511 (2G), ETSI EN 301 908-1 & ETSI EN 301 908-2 (3G & 4G)
EMC	ETSI EN 301 489-1, ETSI EN 301 489-52, EN 55032: class B device
Environment	DIN EN IEC 63000:2019 : RoHS

Operating diagram

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